Amendments to the Claims

1. (currently amended) A fuel level sensor having a magnetic position sensor connected to an arm for attachment to a float, wherein the magnetic position sensor comprises a stator and a movable part, the stator having two soft magnetic pieces defining an air gap which contains a magnetosensitive probe for measuring the variation in induction in the gap, the moveable part comprising a magnet ~~yoke of soft magnetic material~~ displaceable parallel to the magnetic pieces of the stator [[,]] and ~~a magnet partly embedded in a cavity in the yoke~~ facing the stator, the poles of the magnet being polarized perpendicularly to direction of movement of the moveable part relative to the stator, wherein each of the two soft magnetic pieces of the stator comprises a strip which is bent away from the magnet to define said air gap.

2. (original) A sensor according to claim 1, wherein the magnetosensitive probe is a Hall effect sensor.

3. (original) A sensor according to claim 2, further comprising a signal processor for processing a signal produced by the magnetic position sensor and representing the position of the moveable part relative to the stator.

4. (original) A sensor according to claim 3, wherein the signal processor and the magnetosensitive probe are parts of the same integrated circuit.

5. (previously presented) A sensor according to claim 3, wherein the sensor has two power terminals and the signal processor is operable to output the signal representing the position of the moveable part relative to the stator on the power terminals.

6. (original) A sensor according to claim 5 wherein the said signal is a Pulse Code Modulated signal.

7. (previously presented) A sensor according to claim 3, wherein the signal processor is operable to provide fault indication and/or part identification.

8. (previously presented) A sensor according to claim 3, wherein the signal processor is operable to provide temperature compensation.

9. (previously presented) A sensor according to claim 1 in combination with a fuel pump.

10. (previously presented) A sensor according to claim 1, wherein at least the magnetic position sensor is encapsulated in encapsulant.

11. (original) A sensor according to claim 10, wherein the encapsulant is vinyl ester resin.

12. (previously presented) A sensor according to claim 3, wherein the signal processor is programmable to calibrate the output of the sensor to the shape of a fuel tank.

13. (previously presented) A vehicle comprising a sensor according to claim 1.

14. (currently amended) A vehicle comprising ~~a computer and~~ a sensor according to claim 13, and a ~~wherein the said~~ computer [[is]] arranged to calibrate the output of the sensor to the shape of a fuel tank of the vehicle.

15. (cancelled)

16. (cancelled)

17. (previously presented) A fuel tank containing a fuel level sensor according to claim 1.

18. (new) A sensor according to claim 1, wherein the moveable part further comprises a yoke of soft magnetic material, and wherein the magnet is partly embedded in a cavity in the yoke.

19. (new) A sensor according to claim 18, wherein the magnetosensitive probe is a Hall effect sensor.

20. (new) A sensor according to claim 19, further comprising a signal processor for processing a signal produced by the magnetic position sensor and representing the position of the moveable part relative to the stator.

21. (new) A sensor according to claim 20, wherein the signal processor and the magnetosensitive probe are parts of the same integrated circuit.

22. (new) A sensor according to claim 20, wherein the sensor has two power terminals and the signal processor is operable to output the signal representing the position of the moveable part relative to the stator on the power terminals.